



# 280C M-Bus Concentrator

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The 280C M-Bus Concentrator is an automatic data collection device designed for M-Bus meters such as 280T BTU meter, 280W water meter and STE-xx electric meter. The concentrator and the M-Bus meter communicate by the industry standard M-Bus interface.

The 280C comes with three variations:

- (1) 280C-0: This is a transparent M-Bus concentrator. It provides M-Bus power to M-Bus meters, and passes the M-Bus protocol to upper layer device. Sometimes it is called M-Bus convertor.

The interface to the upper layer device could be M-Bus (280C-0-0) or RS232 (280C-0-1).



280C-0 Concentrator

- (2) 280C-1: This is an intelligent M-Bus concentrator with large storage for scheduled meter reading. It provides M-Bus power to M-Bus meters, automatically reads data from those M-Bus meters, stores those data, and transmits those data to upper layer upon request.

The interface to the upper layer device could be M-Bus (280C-1-0) or RS232 (280C-1-1).



280C-1 Concentrator with storage

- (3) 280C-2: This is a transparent M-Bus to BACnet converter. It provides M-Bus interface on one side, and BACnet on the other side.



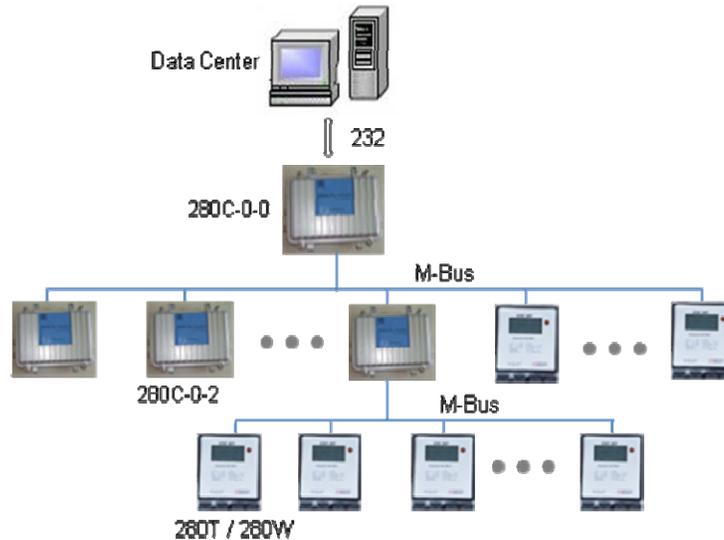
280C-2 BACnet Concentrator

Each concentrator is able to support up to 300 M-Bus meters. It can be cascaded to form a hierarchical topology, where a large number of meters can be networked. The figure below illustrates a simple hierarchical system. The concentrator on the top is 280C-0-1, which connects to a computer on one side, and connects to several 280C-0-0 type sub layer concentrators.

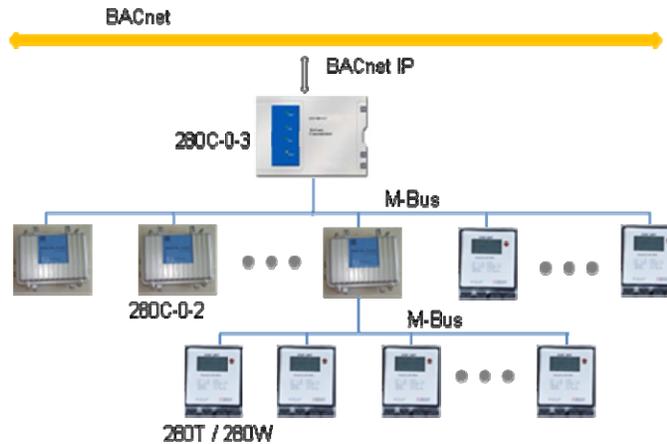
The topology of using BACnet Concentrator (280C-2) is illustrated on the second figure below.

# M-BUS Concentrator

Hierarchical topology of an AMR system using M-bus concentrator.



Hierarchical topology of an AMR system using a BACnet concentrator.



## Technical Data

### M-Bus Concentrator (280-0 / 280C-1)

Features:

- Transmit data upward, transfer command downward
- Large non-volatile flash memory for data storage (280C-1 only)
- Powerful communication capabilities
- Self-diagnosis and self-protection when short-circuit occurs
- Automatic meter reading (280C-1 only)

Operator only needs to set up a schedule on the time and the clients the meter value are to be taken. The concentrator collects and reports the data automatically, reliably and efficiently.

Interface - Downward: M-bus. Default to 2400Bps. Support up to 300 devices

Interface - Upward: For 280C-x-0 concentrator:

# M-BUS Concentrator

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	M-Bus, default to 2400Bps
	Protocol: M-Bus
	For 280C-x-1 concentrator:
	RS232 (optional RS485-toRS232 adapter or USB-to-RS232 adapter), default to 2400Bps
	Protocol: proprietary
LEDs:	Indicators for communication status, overload alarm and power
Power:	110VAC or 240VAC, 20Watts
Enclosure:	Aluminum, IP54
Dimension:	240 x 200 x 80 mm <sup>3</sup>
Weight:	2.3kg

## BACnet Concentrator (280C-2)

### Features:

- Transmit data upward, transfer command downward
- Support BACnet /IP. Easy to connect to the Internet
- Support BACnet services including Who-is, I-am, read, write, create, delete, etc.
- Standard Ethernet communication
- Support BACnet AI, AO, BI, BO, PG, File and Device
- Large non-volatile flash memory for data storage
- Self-protection over power shutdown

Interface - Downward:	M-bus. Default to 2400Bps. Support up to 300 devices
Interface - Upward:	BACnet /IP. Ethernet: full duplex, 10M / 100M, self-adaption
LEDs:	Indicators for DATA, NET, RUN, FAULT and Power
Power:	24VDC or 110VAC or 220VAC, 10Watts
Operation Temp:	0 ~ 45°C
Storage Temp:	-20 ~ 70°C
Enclosure:	IP30
Dimension:	168 x 110 x 34 mm <sup>3</sup>
Weight:	0.6kg

For further information, please contact us by sending email to [solutions@shenitech.com](mailto:solutions@shenitech.com).

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